least one clopidogrel prescription (11.6%) and met inclusion criteria. Mean age was 67.1 years; 65.8% were male. Commonly recorded comorbidities included: diabetes, angina, coronary heart disease, and hypertension. Mean length of clopidogrel therapy was 144 days. Patterns of use analysis found 42.5% of patients stopped therapy (defined as not on clopidogrel 28 days prior to end of follow up). A gap in therapy was seen in 82.9% (defined as late refills >14 days apart). Concomitant cardiovascular drug therapies included: ACE inhibitor (34.1%), beta-blocker (12.9%), and statin (51%). **CONCLUSIONS:** This descriptive study suggests clopidogrel is substantially underutilized in ACS patients. Furthermore, patients had poor long-term adherence to therapy as demonstrated by the number who stopped therapy or had gaps. A large gap exists between current practice and suggested treatment guidelines.

PCV5

POTENTIAL COST SAVINGS FROM ACUTE CORONARY SYNDROME TREATMENT IMPROVEMENTS

Klein RW[1], Ohsfeldt RL[2], Smolen LJ[1], McCollam PL[3]
[1]Medical Decision Modeling Inc, Indianapolis, IN, USA; [2]The University of Iowa College of Public Health, Iowa City, IA, USA; [3]Eli Lilly and Company, Indianapolis, IN, USA

OBJECTIVES: This research uses a Markov model of acute coronary syndrome (ACS) to determine the magnitudes of cost drivers affected by new treatments. **METHODS:** A Markov model was built using TreeAge Pro Healthcare and parameterized to replicate the Clopidogrel in Unstable angina to prevent Recurrent ischemic Events (CURE) trial. The model reports results at 30 days, then every six-months over three-years for clopidogrel plus aspirin vs. a hypothetical alternative. Reductions in risk for five events are analyzed: myocardial infarction (MI), initial and subsequent percutaneous coronary intervention (PCI), refractory ischemia, and stroke. Modeled risks and costs of coronary bypass surgery and bleeding complication are not modified. Resulting states include: no event, post each event type, various cardiac deaths, and non-cardiac death. **RESULTS:** The effects on costs of reducing relative risks of each event (and all five together) by 10% and 20% are evaluated. Cost offsets at one and three-years are highest for initial PCI ($239, $724; 2.0%, 2.8% of total costs for time period) for a 20% six-month risk reduction. All other one-year offsets are less than 1.0%. Ten percent reductions produce nearly half the cost savings. Total savings for a 20% reduction in all five events are ($493, $1530; 4.1%, 5.8%) at one and three-years. If, instead of reducing risks after the initial 30-day period, a 20% reduction in 30-day risk of PTCA is modeled, then costs decrease by $389, $480, and $616 at 30 days, one and three-years, respectively. **CONCLUSIONS:** In this model, initial PCI influences cost more than MI, refractory ischemia, subsequent PCI, or stroke, but all are clinically important. Knowing the relationship between event costs and risk reductions can help estimate the potential cost impact of new treatments.

CARDIOVASCULAR DISEASE—Angioplasty

PCV6

LONG-TERM COST-EFFECTIVENESS OF EARLY AND SUSTAINED DUAL ORAL ANTIPLATELET THERAPY WITH CLOPIDOGREL FOLLOWING PERCUTANEOUS CORONARY INTERVENTION (CREDO TRIAL): A FOUR-EUROPEAN COUNTRY ANALYSIS

Weintraub WS[1], Bouin O[2], Veledar E[1], Gabriel S[2]
[1]Emory University, Atlanta, GA, USA; [2]Sanofi-Aventis, Bagneux, France

OBJECTIVES: The Clopidogrel for the Reduction of Events During Observation (CREDO) trial showed that clopidogrel loading prior to percutaneous coronary intervention (PCI) with one-year treatment after PCI reduced the combined risk of death, myocardial infarction (MI) or stroke. The purpose of this study was to evaluate the economic impact of clopidogrel based on CREDO in Switzerland, Belgium, Italy, and France. **METHODS:** We used clinical outcomes and resource use from CREDO combined with external survival data to assess the long-term cost-effectiveness of clopidogrel. A total of 2116 patients with coronary artery disease were randomized to clopidogrel loading before PCI plus one year therapy (n = 1053) vs. 28 days clopidogrel followed by placebo (n = 1063). All patients received clopidogrel day zero to 28. In all, 89 (8.45%) patients in the treatment arm and 122 (11.48%) in the placebo group had an event (RRR 26.9%, 95% CI 3.9%–44.4%). Hospitalizations were assigned a Diagnostic Related Group (DRG) through a DRG grouper. Unit costs were developed in each country and applied to all patients of the CREDO study. Lost life expectancy associated with death, MI and stoke was estimated from Saskatchewan data and discounted 3%. Cost effectiveness was expressed as the cost per event avoided and as cost per Life year saved (LYS). **RESULTS:** The cost effectiveness of one year use of clopidogrel in addition to a clopidogrel loading strategy prior to PCI vs. placebo ranges from 15,765€ to 26,074€/event prevented. The cost per LYS is 2483€/LYS in Belgium, 2502€/LYS in France; 2552€/LYS in Italy; 2659€/LYS in Switzerland based on Saskatchewan projection. **CONCLUSION:** Clopidogrel used prior to PCI and for one year thereafter is a cost effective strategy. Consistent results are found in the four countries studied.

CARDIOVASCULAR DISEASE—Arrhythmia

PCV7

HEALTH CARE RESOURCE UTILIZATION AND COST OF ATRIAL FLUTTER PATIENTS

Pelletier E[1], Reyes CM[1], Hernandez J[1], Lee BK[2]
[1]Boston Scientific Corporation, San Jose, CA, USA; [2]University of California San Francisco, San Francisco, CA, USA

OBJECTIVE: The objective of the study was to analyze annual health resource utilization and costs of patients with atrial flutter. While the majority of atrial flutter research has focused on various pharmacologic, cardioversion, and catheter ablation treatment options, the costs associated with treating atrial flutter patients have not been previously reported. **METHODS:** All patients receiving a diagnosis of atrial flutter (ICD-9 427.32) between January 1, and December 31, 2002 were identified from a nationally representative private payer database (IHCIS, Waltham, MA). Patients <18 years of age or not continuously enrolled in a health plan for one year following the atrial flutter diagnosis were removed from the analysis. Total one-year health resource use and costs, including hospital inpatient, outpatient, professional, ancillary, and pharmacy services, were measured from a third-party payer perspective. **RESULTS:** The study included 4945 patients with an atrial flutter diagnosis. The average age was 62 years; 65% were male. The top co-morbid conditions were atrial fibrillation (72.3%), hypertension (55%), and neoplasms (27%). Average total one-year medical costs for atrial flutter patients were $25,652 +/–$44,814, of which inpatient hospitalizations comprised almost 50% of the total cost. Over half of patients were hospitalized with mean length of stay of 6.78 +/–20.73 days, 83% had at least one outpatient visit, while almost all patients had a physician visit and 71% required at least one pharmacy visit during the one-year follow-up.

CONCLUSION: Patients diagnosed with atrial flutter incur significant health care costs and resource utilization. This analysis of atrial flutter patients is the first step towards understanding the clinical and economic burden of the disease in the United States.

CARDIOVASCULAR DISEASE—Atrial Fibrillation

PCV8

TOTAL HEALTH CARE COSTS OF PATIENTS WITH CHRONIC NON-VALVULAR ATRIAL FIBRILLATION BEFORE AND AFTER TIA, ISCHEMIC STROKE OR MAJOR BLEED

Stephenson JJ[1], Fernandes J[1], Beaulieu JF[1], Del Aguila MA[1], Hauch O[2], Kim J[2], Boccuzzi SJ[1]

[1]Aetna Health Information Solutions, Blue Bell, PA, USA; [2]AstraZeneca Pharmaceuticals LP, Wilmington, DE, USA

OBJECTIVES: To determine the total direct health care costs of patients newly diagnosed with chronic non-valvular atrial fibrillation (CNVAF) before diagnosis and after a transient ischemic attack (TIA), ischemic stroke (IS) or major bleed (MB). **METHODS:** This retrospective, observational cohort study utilized medical and pharmacy claims from a large, geographically diverse managed care organization to identify patients with ≥two atrial fibrillation (AF) claims between January 1, 2001–June 30, 2002. Continuously enrolled members with no evidence of AF (ICD-9-CM = 427.31) or warfarin claims 12 months prior to the index AF claim were followed for ≥six-months until first TIA/IS/MB (EVENT) or study end. Total direct health care costs for all patients were assessed pre- and post-AF index claim. For the subset of patients with an EVENT, total health care costs were also assessed pre- and post-EVENT (from index AF up to EVENT, and EVENT to study end). **RESULTS:** Of 3891 incidence CNVAF patients, 62% were male and 55% were ≥65 years. Pre- and post-AF total direct health care costs were $400 and $1073 per patient month (PPM) respectively. The 448 of 3891 (12%) patients with an EVENT had post-EVENT total direct health care costs of $2311 PPM. Approximately 46% of all events occurred ≤one-month after the index AF claim. **CONCLUSIONS:** In this population, post-AF total direct health care costs were 2.7 times greater than pre-AF total health care costs. For the subgroup of patients with a subsequent TIA, IS or MB, post-EVENT total direct health care costs increased 5.8 times from pre-AF costs with nearly half of the events occurring within one month of AF diagnosis. Identification and treatment of CNVAF patients at risk for a cardiovascular event can result in substantially lower costs to the health care system.

PCV9

COST-EFFECTIVENESS OF AMIODARONE TO PREVENT ATRIAL FIBRILLATION AFTER CARDIAC SURGERY

Reddy P[1], Gao X[2], Burrell A[3], Boci K[2], Bouin O[4]

[1]Abt Associates Inc, Lexington, MA, USA; [2]Abt Associates Inc, Bethesda, MD, USA; [3]Sanofi-Aventis, Bridgewater, NJ, USA; [4]Sanofi-Aventis, Bagneux, France

Atrial fibrillation (AF) develops in some 30% of patients following cardiac surgery, significantly increasing hospital length of stay (LOS) and costs. Previous data suggested that amiodarone was cost-effective overall in preventing postoperative AF. **OBJECTIVES:** Using recently published epidemiological and clinical data, the purpose of this analysis was to assess the cost-effectiveness of amiodarone prophylaxis in specific patient subgroups undergoing cardiac surgery. **METHODS:** A literature-based decision analytic model was developed from a US payer perspective. The time horizon was the duration of cardiac surgery hospitalization. Amiodarone plus standard of care (beta-blocker prophylaxis) was compared to standard of care alone in the following patient AF risk groups: 1) age ≥ 70 years, 50–69 years, and 30–49 years; 2) history of AF; and 3) concurrent valve surgery. The cost of amiodarone, LOS, physician services, adverse events, and AF treatment were included. Sensitivity analyses were conducted to test the robustness of the analysis. **RESULTS:** In all patient populations, a 26% AF risk reduction rate was used for amiodarone with a range of 18%–72%. Total LOS in the intensive care unit (ICU) and non-ICU was 9.20 (ICU/non-ICU: 2.86/6.34) days in AF patients versus 6.40 (ICU/non-ICU: 2.23/4.17) days in non-AF patients. Amiodarone was dominant over standard of care alone in high-risk patients (age ≥ 70 years, history of AF, or concurrent valve surgery). The cost of amiodarone per AF event prevented was $1,793 in patients 50–69 years and increased to $19,424 in patients 30–49 years. The results were highly sensitive to a change in amiodarone efficacy and LOS, but less sensitive to amiodarone drug cost. **CONCLUSION:** Based on this model, amiodarone can be considered cost effective in patients undergoing cardiac surgery depending on the willingness-to-pay threshold employed. Selection of high-risk patients improves the cost-effectiveness ratio compared to patients with low/moderate risk.

PCV10

RACE AND GENDER COST DIFFERENCES ASSOCIATED WITH COMORBID ATRIAL FIBRILLATION IN THE HOSPITAL SETTING

Coyne KS[1], Paramore LC[1], Grandy S[2], Mercader M[3], Reynolds M[4], Zimetbaum PJ[4]

[1]MEDTAP International, Inc, Bethesda, MD, USA; [2]AstraZeneca, LP, Wilmington, DE, USA; [3]George Washington University, Washington, DC, USA; [4]Beth Israel Deaconess Medical Center, Boston, MA, USA

OBJECTIVE: To examine race and gender cost differences associated with treating atrial fibrillation (AF) in the inpatient setting. **METHODS:** This retrospective study analyzed nationally representative hospital discharge data from the 2001 Health Care Cost and Utilization Project (HCUP) database. The impact of race and gender on costs of treating AF as a primary diagnosis (ICD-9 427.31) and as a comorbid diagnosis was examined. Using the five most frequent principal discharge diagnoses (CAD, CHF, pneumonia, COPD, MI) with AF as a comorbid diagnosis (case), a case/control analysis was performed to estimate annual incremental costs of AF. Cases were matched to controls on age, gender, race, principal discharge diagnosis, and hospital bed size. Ordinary least squares regression was used with the following covariates: age, gender, race, payer, bed size, emergency admission, unrelated surgery, and comorbidities. **RESULTS:** There were 348,000 hospitalizations for AF as principal diagnosis with a cost of $2.56 billion. Among the top five HCUP diagnoses with AF as a comorbid diagnosis, there were 547,000 hospitalizations with an incremental cost of $1.5 billion. Although race and gender did not significantly affect the costs of hospitalizations for AF as a principal diagnosis, non-white race was associated with significantly ($P < 0.001$) higher costs among the top five HCUP diagnoses with AF as a comorbid diagnosis with costs ranging from $1216 (CHF) to $2537 (MI) per hospitalization. Female gender was associated with significantly increased costs for pneumonia and COPD, but decreased costs for CHF and MI. **CONCLUSIONS:** Neither gender nor race affect costs when treating AF as a principal diagnosis. Non-white race is associated with higher costs in treating top five HCUP diagnoses with comorbid AF.